

SUBSTRATE DICING METHOD

Abstract of the Disclosure

A programmable dicing saw is operable with movement of its spindle and work surface for aligning a dicing blade juxtaposed between flanges on the spindle and dicing a substrate along a predetermined blade path. By locating the center of the substrate, an efficient movement of the blade relative to the substrate center rather than the work surface center saves time. Locating the center of the blade includes aligning opposing substrate edges and edge location data entry into a processor for calculation of the substrate center and control based on the substrate center. In addition, prior to cutting along the edges of the substrate, the dicing blade is first aligned for travel parallel to and proximate the edge of the substrate, and an alignment offset is provided to the programmable dicing saw for laterally moving the blade toward the center of the substrate prior to making a cut and avoiding damage to the blade and substrate that typically results when the blade slides along the substrate edge rather than cutting into the substrate. In addition, by knowing the substrate center location, an arcuate cut can be accurately made into the substrate by making multiple straight cuts with a rotation of the substrate about its center between each cut. A flange clearance is monitored by measuring the blade exposure after a preselected number of cuts during the substrate dicing, and a minimum flange clearance permitted before blade movement toward the substrate is automatically stopped.